

IN THE CLAIMS:

1. (Presently Amended) A method for providing a cell attached to a patch clamp electrode ~~and~~ having a high resistance electrical seal between an area of the cell membrane and the electrode, comprising:

i) providing a suspension of cells in a liquid such that a layer of cells forms at an interface between the air and said liquid; and

~~ii) forming a layer of cells at an interface between air and the liquid in which the cells are suspended; and~~

~~iii ii)~~ bringing the a patch clamp electrode into contact with the interface cell membrane of at least one cell by moving one or both of the electrode and the interface respectively together such that a high resistance electrical seal forms between said patch clamp electrode and said cell membrane thereby attaching said at least one cell to said patch clamp electrode.

2. (Presently Amended) A method for providing a cell attached to a tip of a patch clamp pipette and having a high resistance electrical seal between an are of the cell membrane and the tip, comprising:

i) providing a capillary tube containing a suspension of cells in a liquid such that a layer of cells forms at one end of the capillary tube at an interface between the air and liquid in which the cells are suspended;

~~ii) forming a layer of cells at one end of the capillary tube at an interface between the air and the liquid in which the cells are suspended;~~

~~iii ii)~~ bringing the tip of the patch clamp pipette into contact with the interface cell membrane of at least one cell by moving one or both of the pipette and the tube respectively together along a common axis of movement such that a high resistance electrical seal forms between said patch clamp pipette tip and said cell membrane thereby attaching to at least one said cell to said patch clamp pipette.;

~~iv) contacting the tip with a cell in the cell layer at or near the interface at the cell membrane of at least one cell; and~~

v) ~~attaching the cell to the tip.~~

3. (Previously Amended) The method according to claim 1 or 2, wherein the liquid in which the cells are suspended is an extracellular physiological solution.

4. (Previously Amended) The method according to claim 1 or 2 wherein the layer of cells is several cells deep and loosely packed.

5. (Previously Amended) The method according to claim 2 wherein the layer of cells is formed by mounting the capillary tube in an essentially upright orientation and allowing the suspended cells to sediment to the downward end of the tube to collect substantially in a layer.

6. (Previously Amended) The method according to claim 2 wherein the capillary tube is mounted essentially upright with the interface at a lower open end of the capillary tube and the pipette is mounted essentially upright with the tip upwardly pointing.

7. (Previously Amended) The method according to claim 2 wherein the capillary tube and pipette are concentrically mounted with the capillary tube in a fixed position and the pipette movable along the common axis.

8. (Previously Amended) The method according to claim 2 wherein the capillary tube and pipette are concentrically mounted with the pipette in a fixed position and the capillary tube movable along the common axis.

9. (Previously Amended) The method according to claim 2 wherein suction is applied to the pipette during contact with the interface and during the step of contacting the tip with a cell.

10. (Previously Presented) A method according to claim 2, in which contact between the pipette tip and the air/liquid interface and/or subsequent movement of the pipette tip into the liquid is detected by monitoring pipette capacitance.

11. (Cancelled)

12-18. Previously Canceled.

19. (Currently amended) A method for providing a cell attached to a patch clamp electrode, comprising:

providing a suspension of cells in a liquid such that a layer of cells forms at an interface between the gaseous environment and said liquid; and;

forming a layer of cells at an interface between the liquid and a surrounding gaseous environment; and

moving one or both of the electrode and said interface together along a common axis;

bringing the a patch clamp electrode into contact with the interface by said movement along said common axis; and cell membrane of at least one cell by moving one or both of the electrode and cell membrane together along the common axis such that a high resistance electrical seal forms between said patch clamp pipette tip and said cell membrane thereby attaching to at least one said cell to said patch clamp pipette.

forming a high resistance electrical seal of at least about 1 giga ohm between an area of cell contained in said cell layer and the electrode through said contact.

20. (Previously Presented) The method of claim 19 wherein said interface is formed in a capillary tube.

21. (Previously Presented) The method of claim 19, wherein said high resistance electrical seal provides a resistance of at least about 1 GOhm.

22. (Previously Presented) The method of claim 1, wherein said high resistance electrical seal provides a resistance of at least about 1 GOhm.

23. (Previously Presented) The method of claim 2, wherein said high resistance electrical seal provides a resistance of at least about 1 GOhm.